

Experimental studies of resonant nonlinear oscillations of a gas in an open and closed tube

Zaripov R., Tkachenko L., Shaidullin L.

Kazan Federal University, 420008, Kremlevskaya 18, Kazan, Russia

Abstract

© 2018 Institute of Physics Publishing. All rights reserved. Nonlinear oscillations of gas in an open and closed tube were researched experimentally. Dependencies of the of the pressure oscillation amplitude were obtained at the resonance frequencies of the gas excitation at a fixed amplitude of the tube displacement.

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References

- [1] Ilgamov M A, Zaripov R G, Galiullin R G and Repin V B 1996 Appl. Mechanics Reviews 49 137
- [2] Zaripov R G, Galiullin R G and Galiullina E R 2001 Actual problems of continuum mechanics. On the 10th anniversary of IME KazSC RAS (Kazan: IME KazSC RAS) 19-35
- [3] Tkachenko L A and Zaripov R G 2013 Russian Aeronautics 28-32
- [4] Zaripov R G, Kashapov N F, Tkachenko L A and Shaydullin L R 2016 J. Phys.: Conf. Series 669 012053
- [5] Van Wijngaarden L. and Van Wormgoor L. 1974 Finite-Amplitude Wave Eff. Fluid proc. Symp. Copenhagen 75-80
- [6] Zaripov R G, Tkachenko L A and Shaydullin L R 2014 J. Phys.: Conf. Series 567 012042
- [7] Shaydullin L R 2016 IOP Conf. Ser.: Mater. Sci. Eng. 134 012022
- [8] Gubaidullin D A, Kashapov N F, Zaripov R G, Tkachenko L A and Shaydullin L R 2017 J. Phys.: Conf. Series 789 012017